DOCUMENT RESUME

ED 167 886 CG 013 283

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TITLE Relationship of Job Scope to Enlisted Performance and Satisfaction Criteria.
PUB DATE [77]
NOTE 14p.; Tables are marginally legible due to small print

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Behavior Patterns; Comparative Analysis; *Individual Characteristics; *Job Development; *Job Satisfaction; Military Personnel; *Perception; Reactive Behavior; *Task Performance; *Work Experience
IDENTIFIERS *Job Diagnostic Survey

ABSTRACT

As part of a longitudinal study of first-term enlisted naval personnel, perceptions of job scope (the complexity and challenge of a job), were investigated to predict criteria of satisfaction, enlisted performance ratings, and turnover. Correlations between job scope (Job Diagnostic Survey scores) and behavior as moderated by a variety of individual difference characteristics were also examined, including internal-external locus of control, growth need strength, and needs for achievement. The overall results of the study were consistent with previous research on job design in that the interaction between the individual and the job has been found to be an important determinant of employee work outcomes of satisfaction and turnover. Relationships between job characteristics and performance were not significant. In general, results indicated that individuals who have high needs for achievement, for example, react less favorably to jobs low on variety, autonomy, task identity, feedback, and task significance, and are more likely to separate from the Navy than individuals who do not have high achievement needs. (Author)

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RELATIONSHIP OF JOB SCOPE TO ENLISTED PERFORMANCE AND SATISFACTION CRITERIA

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Recent research has indicated that the nature of work itself is a major cause of job satisfaction, turnover, and performance. There is also evidence that employees demand interesting and challenging work, have high expectations about the jobs they will perform, and are increasingly dissatisfied with jobs that have little intrinsic content value. These evolving expectations and demands may conflict with the constraints, conditions, policies, and reward systems of employing organizations.

Until recently, understanding of how job characteristics relate to individual productivity, job satisfaction, and turnover has been limited by the absence of a theoretical model for the measurement of the interaction between job characteristics and individual personality needs. During the past decade, however, Hackman, Oldham, Lawler, and other researchers have conducted a series of studies to identify job and individual characteristics that play an important role in employee behavior. This interactive model of work behavior is presented in Figure 1.

To measure the components of this interactive model, the Job Diagnostic Survey (JDS) was developed. This questionnaire measures: (1) the perceived characteristics of jobs themselves, including both an overall indication of the motivating potential of a job and scores on each of five core dimensions, (2) current levels of internal motivation and satisfaction, and (3) the level of employee growth need strength (GNS).

It is possible to generate a summary score reflecting the overall motivating potential of a job as follows:

$$\text{Motivating Potential Score (MPS)} = \frac{(\text{Skill Variety} + \text{Task Identity} + \text{Task Significance})}{3} \times \text{Autonomy} \times \text{Feedback}$$

A number of empirical studies have investigated the relationship between job characteristics and employee behavior. The majority of these studies have used moderator variables to assess how employees respond to job characteristics. Field and laboratory studies which have tested this interactive model of work behavior are outlined in Table 1.

As part of a longitudinal study of first-term enlisted naval personnel, the present investigation utilized perceptions of job scope (i.e., the complexity, and challenge of a job) to predict criteria of satisfaction, enlisted performance ratings, and turnover. Correlations between job scope and behavior as moderated by a variety of individual difference characteristics were also examined.

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[1]The views expressed in this paper are those of the authors and do not necessarily represent those of the Navy Department.

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It was hypothesized that there would be positive relationships between the perceived motivating potential of entry Navy jobs and work outcomes of satisfaction, performance, and lower turnover. Since there are wide individual differences in reactions to job characteristics, it was also hypothesized that relationships between the motivating potential of a job and positive work outcomes may be stronger for individuals who have high needs for achievement and/or high GNS.

The central theme of this research is that satisfaction, turnover, and performance represent complex phenomena that could best be understood within a multivariate framework. Investigations of these work outcomes have often conceptualized organizational and personal influences as independent sets of predictors. Only a relatively small number of studies examine the congruence or "fit" between the individual and the entry job.

Method

Sample

All male enlisted personnel entering the Navy in November 1976 served as subjects. Approximately half of this group served as experimental subjects, and had a voluntary release option at any time subsequent to completion of recruit training (N = 2,322). The remainder of the November 1976 accessions served as a control group.

Procedure

A Recruit Background Questionnaire (RBQ) was administered to all November 1976 accessions at the conclusion of recruit training. The RBQ measured: (1) biographical-attitudinal characteristics, (2) expectations of the entry job assignment, (3) perceptions of organizational climate at the Recruit Training Center (RTC), (4) achievement needs, (5) internal-external locus of control, and (6) perceptions of general living conditions experienced at the RTC.

An Exit Questionnaire was completed by all enlisted personnel in the experimental group who elected to separate over the first 16 months of eligibility (N = 766 of 2,322). In order to assess the longitudinal effects of Navy experiences, items measuring perceptions of organizational climate, general living conditions, and expectations were essentially the same as those included on the RBQ. Job scope perceptions were assessed by the short form of the Job Diagnostic Survey (JDS).

The Fleet questionnaire represented a short version of the Exit Questionnaire, and was administered after seven months of active duty to experimental group personnel. Perceptions of organizational climate, job scope, satisfaction, and Navy experiences were assessed in order to: (1) longitudinally monitor the effects of organizational characteristics upon work attitudes and behavior, and (2) to compare perceptions of the Navy on the part of attrites and nonattrites in the experimental group.

Job performance ratings on three scales (knowledge/skill, drive/motivation, and adaptability) were obtained after approximately eight months of active duty.

Analyses

The focus of the present study was upon enlisted personnel who had job experience aboard ship, not upon personnel who exercised their separation option during Class "A" or apprentice school.

The analytic task, as data on satisfaction turnover and job performance became available, was to use the JDS and other organizational variables to develop a conceptual model within the format[2] of multiple regression to account for work behavior in the experimental group. Subgroup analyses were used to identify whether or not personality needs (locus of control, growth need strength, and needs for achievement) moderated job scope--work outcome relationships.

Fleet Questionnaire responses from experimental group members on the JDS subsection were used to predict: (1) job performance ratings and (2) turnover from the eighth to the sixteenth month of active duty. Exit Questionnaire JDS responses from attrites were used to predict internal motivation and general satisfaction. Job scope perceptions of attrites and nonattrites were generated from a comparison of Exit and Fleet JDS Questionnaire responses.

Results and Discussion

1. Work Satisfaction

For a significant number of experimental group personnel who separated from the fleet, work itself and the entry job assignment was a major correlate of job dissatisfaction. Work which was described as requiring minimal skill and lacking intrinsic worth (e.g., chipping paint, compartment cleaning, mess duty), or as involving general deck force duties was associated with low satisfaction and internal work motivation. For fleet attrites, the Motivating Potential Score derived from the JDS correlated .34 with internal motivation and .50 with general satisfaction ($p < .05$). Other job characteristics were significantly correlated with motivation and satisfaction. These data from the Exit Questionnaire are presented in Table 2.

Figure 2 compares expectations of the first job assignment with reported experiences. In virtually every case, there was a significant drop between the expectations of both attrites and nonattrites at the end of recruit training and reported experiences ($p < .01$). The largest discrepancies appeared among factors related to recognition, feelings of accomplishment, and factors inherent to the content and significance of the entry job itself.

Of particular interest in Figure 2 are the discrepancies between expectations and experiences of experimental group personnel who have not separated.[3] While discrepancies are relatively larger for personnel who separated, it is clear that both attrites and nonattrites have high expectations concerning the nature of entry jobs.

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[2]The validity of RBQ factor scores against 16-month experimental group attrition was .291. The validity of this questionnaire against control group attrition was not measured.

[3]Only eight items measuring Navy experiences were included on the Fleet Questionnaire.

Table 2

Correlations Between Job Characteristics and Work Outcomes

Job Characteristic	Affective Responses: Internal Motivation	Affective Responses: General Satisfaction	Job Performance	Turnover
Variety	.38*	.42*	.05	-.08*
Task Significance	.32*	.28*	.01	-.09*
Task Identity	.16*	.23*	.06	-.08*
Autonomy	.21*	.32*	.05	-.16*
Feedback	.32*	.34*	-.05	.02
Motivating Potential Score (MPS)	.34*	.50*	.01	-.21*

*$p < .05$

Enlisted personnel are often motivated to join the Navy in order to receive job training. The combination of a job which offers minimal opportunities for psychological growth and satisfaction and the high unfulfilled expectations that enlisted personnel have regarding Navy life, appear to be associated with reported satisfaction and work motivation and may also be associated with separation decisions.

2. Turnover

Approximately 27 percent of fleet attrites listed the nature of their work as being the single most important factor influencing separation decisions. A comparison of JDS scores on core job dimensions and affective responses to the job itself indicated that attrites reported significantly lower scores than non-attrites on most scales. In a partial test of the effect of job scope upon turnover, personnel still on active duty who completed the Fleet Questionnaire were asked if they planned to complete their first enlistment. Results showed a multiple correlation of .52 between Fleet Questionnaire responses of experimental group personnel and behavioral intentions. A number of JDS scales were significantly related to these behavioral intentions.

In a direct test of the influence of job scope upon turnover, perceptions of job characteristics as measured by the Fleet Questionnaire were used to predict separation from the eighth to the sixteenth month of active duty.[4]

Of 619 experimental group personnel who completed the Fleet Questionnaire, 77 (12.4%) separated. Significant relationships were generally found between job scope and turnover. These correlations, while significant, were not high. The correlation between MPS and turnover was -.21 (see Table 2). Higher turnover was significantly associated with lower MPS scores.

3. Job Performance

Job scope perceptions were hypothesized to be related to job performance ratings of experimental group personnel. The job performance measure consisted of the sum of three items (knowledge/skill, drive/motivation, and adaptability). These correlations are shown in Table 2. It was found that job characteristics did not predict performance ratings of enlisted personnel. It was also found that personality needs did not moderate the job scope--job performance relationship.

4. Subgroup Analyses

Further analyses examined whether correlations between job scope and work behavior were moderated by personality needs of enlisted personnel.

Table 3 shows correlations between job scope and turnover for subgroups created by splitting the entire sample (N = 619) on personality need scores. Separate multiple regressions between job scope and turnover were computed for high and low need strength groups.

Although the relationships with turnover shown in Table 2 were low, Table 3 shows that personality needs moderated job scope-turnover relationships and yielded significant correlations with turnover only for high need strength groups. For example, the multiple correlation between job scope and turnover was -.43 for personnel with high needs for achievement but only -.19 for personnel with low needs for achievement. A negative correlation between job scope and turnover indicates that individuals high on a given personality characteristic were more likely to separate from the Navy.

The moderating effect of personality needs on the job scope-internal motivation and general satisfaction relationship was also investigated. It was hypothesized that enlisted personnel with high growth needs, for example, would report a higher relationship between job characteristics and affective responses to the job than personnel with low growth needs.

Results suggest a higher relationship between MPS and internal motivation for personnel with high needs for achievement ($p < .05$), and a higher relationship between MPS and general satisfaction for personnel with an internal locus of control orientation ($p < .10$). Although other relationships between job scope and affective responses were generally in the predicted direction, it was concluded that personality needs did not consistently moderate these relationships.

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[4]Other predictors of experimental group separation were behavioral intentions of completing the first enlistment (r = .48), and a sum of six items assessing job-related experiences--to enjoy the work itself, to get recognition for good work, a feeling of accomplishment, etc. (r = .21). A number of organizational climate perceptions collected at the first job assignment were also related to turnover, e.g., training effectiveness, climate for innovation.

Table 3

Effects of Personality Needs on Job Scope-Turnover Relationships

Job Characteristic	Needs for Achievement		I-E Locus of Control		Growth Need Strength	
	High (N = 75)	Low (N = 75)	Internal (N = 98)	External (N = 82)	High (N = 139)	Low N = 52)
Variety	-.13	-.07	.01	-.01	-.12	-.17
Task Significance	-.28	-.13	-.11	-.09	-.34[a]	.06
Task Identity	-.09	-.16	-.22[a]	.11	-.24	-.11
Autonomy	-.24	-.13	-.17	-.01	-.37	-.05
Feedback	-.26	-.07	.05	.05	-.11[a]	.22
Motivating Potential Score (MPS)	-.30	-.10	-.17	.02	-.35[a]	.06

Note. Correlation coefficients significantly different from zero at the .05 level are underlined.

[a]High and low personality need correlations are significantly different from each other at the .05 level.

Conclusions and Recommendations

Job scope perceptions of naval enlisted personnel were used to predict performance, satisfaction, and turnover criteria. It was hypothesized that there would be positive relationships between job characteristics and work behavior, and that relationships would be moderated by individual personality needs.

Expectations at the conclusion of recruit training were found to be high, particularly on intrinsic factors associated with the nature of Navy jobs and responsibilities. When faced with the realities of the entry job, many recruits who separated reported that they were assigned tasks so trivial that they were not challenged and were frustrated in terms of opportunities to use individual abilities, opportunities for achievement, and enjoyment of the work itself. Since many individuals join the Navy in order to receive job training and want interesting and challenging work, they reacted negatively to work that was routine and without challenge.

The overall results of the study are consistent with previous research on job design in which the interaction between the individual and the job has been found to be an important determinant of employee work outcomes of satisfaction and turnover. Relationships between job characteristics and performance, however, were not significant. Results indicated that individuals who have high needs for achievement, for example, react less favorably to jobs low in variety, autonomy, task identity, feedback, and task significance and were more likely to separate than individuals who do not have high achievement needs.

Results supported the view that the congruence between personality needs of individuals and the characteristics of entry jobs was an important determinant of work behavior. For the Navy, results indicated that increased attention to the "fit" between individual needs and the entry job may provide a method to improve work behavior and the quality of work life.

Two general strategies to reduce turnover and to improve job satisfaction are proposed--the clarification of expectations among entering recruits so as to bring them into closer alignment with available rewards and/or job enrichment of the total amount of pocentially available rewards. It is strongly suggested that entering personnel should receive a realistic picture and candid information about Navy life from recruiting personnel. Realistic job previews might reduce the clash between high expectations and frustrating on-the-job experiences. Career planning programs could also be designed to help close the gap between expectations and the entry job assignment.

The Job Diagnostic Survey indicated that many Navy jobs were perceived to be low on Motivating Potential Scores. As suggested by the present study, such jobs were associated with low internal motivation, general dissatisfaction, and high turnover for personnel with certain personality needs. Experimental studies designed to improve the motivation and productivity of selected enlisted personnel through job enrichment and job rotation should be conducted.

These two strategies will match jobs and personnel, and enhance the congruence between personal characteristics of entering recruits and organizational characteristics so as to maximize work performance and minimize turnover.

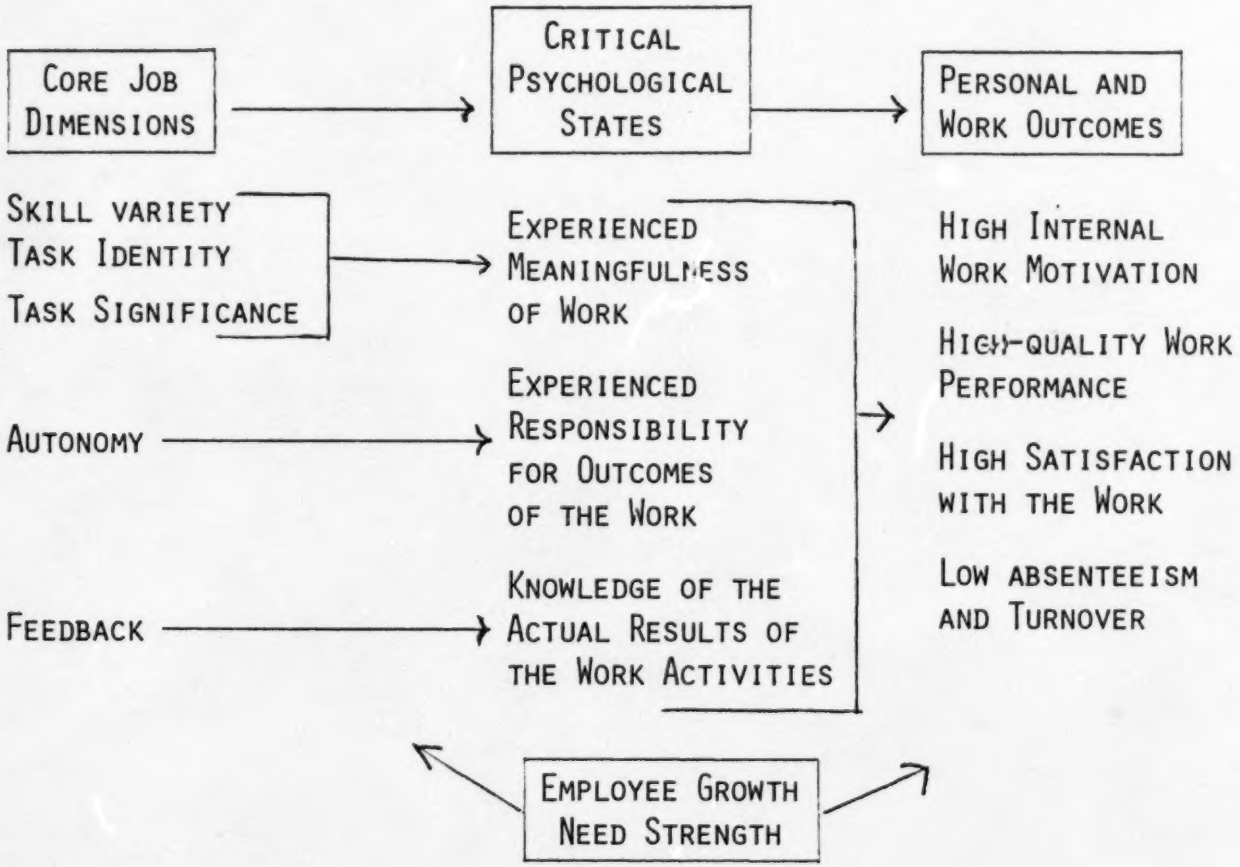


FIGURE 1. THE RELATIONSHIP AMONG THE CORE JOB DIMENSIONS, THE CRITICAL PSYCHOLOGICAL STATES, AND ON-THE-JOB OUTCOMES.

REPRODUCED FROM J. HACKMAN, G. OLDHAM, R. JANSON AND K. PURDY. A NEW STRATEGY FOR JOB ENRICHMENT, NEW HAVEN DEPARTMENT OF ADMINISTRATIVE SCIENCES, YALE UNIVERSITY, MAY 1974. TECHNICAL REPORT NO. 3.

Table 1

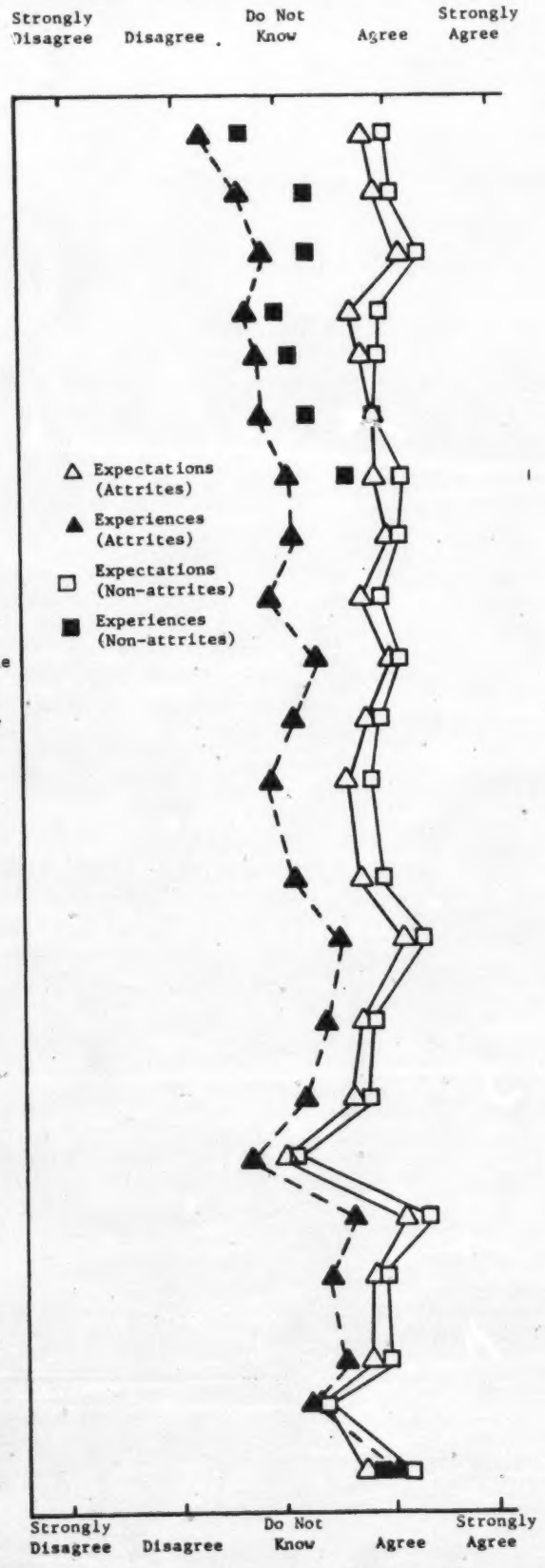
Summary of Job Diagnostic Survey/Job Characteristic Studies

Researchers	Job Characteristic Instrument	Sample	Dependent Variable	Results
Brief and Aldag (1975)	Shortened Job Diagnostic Survey (JDS) measuring core dimensions of variety (V), task identity (TI), autonomy (A), and feedback (F)	Division of Corrections employees (N = 104)	Internal work motivation; general job satisfaction; job involvement	Significant, positive correlations between job dimensions and employee reactions. Higher order need strength moderated core dimension - satisfaction with work itself (SWI) relationships. Role of higher order needs found to be complex.
Dunham (1977)	JDS	Executives of a retail merchandising firm from 8 functional specialty groups (N = 784)	Job Satisfaction	In 5 of 8 specialty groups, employees responded more favorably to jobs high on scope. Moderating effect of specialty group not explained by group differences in climate perceptions or demographic variables
Farr (1976)	Task characteristics on core dimensions (TI, F, V, A) manipulated in a simulated job environment with reward contingencies	College students (N = 90)	Intrinsic motivation; job satisfaction; productivity	Contingent reward systems combined with tasks designed to be high on the core dimensions appeared to be both extrinsically and intrinsically rewarding.
Hackman and Lawler (1971)	V, TI, A, F; dealing with others, and friendship opportunities	Telephone Company employees on 13 different jobs (N = 208)	Experienced work motivation, job involvement, general job satisfaction; performance ratings on quality and quantity produced and overall effectiveness; absenteeism	Generally significant relationships with level of intrinsic motivation, general job satisfaction, and job involvement. Core dimension-outcome relationships for high growth need strength (GNS) employees more strongly related to work quality (r = .23) than quantity (r = .07). No significant relationships with absenteeism. GNS moderated work characteristic - satisfaction relationships but not rated performance
Hackman and Oldham (1976)	JDS	658 employees working on 62 different jobs in seven organizations	General satisfaction, internal work motivation; absenteeism; summary measures of effectiveness as assessed by supervisory ratings	Core dimensions were significantly related to general satisfaction and internal work motivation. Motivation Potential Scores (MPS) had a median correlation with absenteeism of -.25 and .24 with performance effectiveness. Relationships were higher for employees high on GNS than for employees with low GNS.
Howard (1976)	Clerical Aptitude Test; JDS	Clerical employees in a bank in 11 job groups (N = 353)	Supervisory evaluations of job performance	Ability and internal motivation combined in an additive, not interactive manner, to predict performance. Ability correlated .18; enriched job characteristics and GNS measures increased the correlation to .30 ($p < .05$).
Lawler and Hall (1970)	Items and interviews covering degree of control; the job as a test of ability and challenge; responsibility for an entire piece of work	Scientists in 22 R and D laboratories (N = 291)	Self-rated effort and job performance; job involvement; intrinsic motivation and need satisfaction	Job description factors related more strongly to job satisfaction than to involvement or intrinsic motivation. Job characteristic-effort and performance correlations not reported.
Lawler, Hackman, and Kaufman (1973)	Slightly revised version of Hackman and Lawler (1971) questionnaire	Telephone Company employees (N = 17)	Job satisfaction; job involvement; intrinsic work motivation	No changes in work motivation, job involvement, or growth need satisfaction occurred as a result of job enrichment changes. Changes had a negative impact on interpersonal relationships.
Mowday, Stone & Porter (1976)	Job Scope (V,TI, A,F)	Machine operators (N = 45); technical personnel (N = 45)	Job satisfaction; turnover	Significant correlation of -.44 ($p < .01$) between turnover and need for achievement for complex jobs. Correlation for routine jobs was -.01.
Nemiroff and Ford (1977)	Overall Job Complexity Index based on JDS	Food processing site (N = 198)	Affective responses to job and work setting; absenteeism	Satisfaction was derived from congruent fits between the individual-job and individual-structure links and significantly influenced absenteeism.

Table 1 (Continued)

Researchers	Job Characteristic Instrument	Sample	Dependent Variable	Results
Oldham, Hackman, and Pearce (1976)	JDS	Clerical jobs in a bank (N = 201)	Ratings of performance effectiveness; salary corrected for tenure; internal motivation	Employees who had strong growth needs and also were satisfied with the work context (e.g., pay, security, supervision) responded more positively to enriched jobs than employees with low GNS or those dissatisfied with work context. MPS-dependent variable correlations were all significant. Where growth needs were strong and work context satisfaction existed, the correlation of MPS and performance was .32 and with salary was .50.
Oldham (1976)	V, TI, A, F, and Task Significance (TS).	Clerical workers (N = 60)	Supervisory ratings of effort, quality, and quantity produced	Internal motivation significantly related to quality (r = .25), quantity (r = .22), work effort (r = .22). Relationships between core dimensions and supervisory ratings not reported. Co-worker/supervisory satisfaction and GNS moderated the internal motivation-performance relationship.
Steers and Spencer (1977)	Hackman and Lawler (1971) questionnaire	Managers in a manufacturing firm (N = 115)	Organizational commitment; supervisory ratings of overall performance	Core job dimensions significantly related to commitment but not to job performance ratings. Need for achievement moderated the job scope-performance relationship at the .10 level of significance.
Stone (1975)	Job Scope (V, TI, A, F); optional and required interaction	Enlisted Naval personnel (N = 149)	Satisfaction with work itself (SWI)	Job scope-SWI correlated (r = .50). Scores on a Protestant Ethic (PE) scale did not moderate the job scope-SWI relationship.
Stone (1976)	Job Scope (V, TI, A, F)	A number of blue-collar jobs (N = 594)	Satisfaction with work itself (SWI)	Job scope-SWI correlated (r = .43). PE did not moderate the relationship.
Stone, Mowday, and Porter (1977)	Job Scope (V, TI, A, F)	Heterogeneous sample of employees from a manufacturing firm (N = 340)	Satisfaction with work itself (SWI)	Job scope - SWI correlated (r = .38). When SWI was predicted using both job scope and need for achievement, R was .50. Direction of achievement moderator inconsistent with other studies.
Sims and Szilagyi (1976)	Job Characteristic Inventory (V, TI, A, F)	Paramedical and support personnel at a medical center (N = 766)	Job satisfaction; supervisory ratings of performance; expectancies	Relationships with performance ranged from .12 for feedback to .20 with variety. Relationships between job characteristics and job satisfaction were generally higher. Self-actualization need strength moderated these relationships, while locus of control did not.
Umstot, Bell, and Mitchell (1976)	Modified JDS. Goal setting and job enrichment conditions varied in a simulated job environment	Experimental subjects (N = 42)	Job satisfaction; objective measures of job performance	MPS and productivity not related (r = -.16). MPS and job satisfaction significantly related (r = .71). Enrichment affected satisfaction but not work quantity. GNS did not moderate enrichment-satisfaction or performance relationships.
Wanous (1974)	Questionnaire paralleling Hackman and Lawler (1971) core dimensions of V, TI, A, F.	Telephone operators (N = 80)	Global job satisfaction, specific satisfaction; supervisory ratings of job behavior.	Significant relationships between job characteristics and global job satisfaction. Relationships were moderated by higher order need strength. Relationships with job behavior generally not significant.

Figure 2 Discrepancies between expectations of first job assignment and experiences of attrites (N=636) and non-attrites (N=619)


Strongly Disagree
Disagree
Do Not Know
Agree
Strongly Agree
1. The Navy will make use of my individual talents
2. To have a significant and important job
3. To get a feeling of accomplishment
4. To enjoy the work itself
5. To get recognition for good work
6. Supervisors will let me know how well I am doing
7. To have adequate chances for advancement
8. People will be proud of the Navy
9. To make work-related decisions on my own
10. Supervisors will help people to work together as a team
11. Regulations will be clearly understood by people
12. The Navy will have a real interest in the welfare and morale of me and my shipmates
13. To have confidence and trust in my shipmates
14. To feel motivated to contribute my best efforts to the Navy
15. Shipmates will help each other to give their best efforts
16. To have good working conditions
17. To have something different to do every day
18. To have a good and worthwhile experience
19. Supervisors will back up the people who work for them
20. To be treated fairly
21. Supervisors will be friendly and easy to talk to
22. Shipmates will be friendly and easy to talk to
Expectations (Attrites)
Experiences (Attrites)
Expectations (Non-attrites)
Experiences (Non-attrites)
Strongly Disagree
Disagree
Do Not Know
Agree
Strongly Agree